

## **EXHIBIT 16 TABLE OF CONTENTS**

**Exhibit 16A:** Japanese Patent No. 2559732, English-Language Translation;

**Exhibit 16B:** Japanese Patent No. 2559732

## **Exhibit 16A**

Japanese Patent No. 2559732B2  
[Claims only, as requested]

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JUICE BEVERAGE AND JUICE CONCENTRATE WITH SUPPLEMENTED CALCIUM

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References cited:	Japanese Kokai Patent Application No. Sho 59[1984]-31710 (JP, A) Japanese Kokai Patent Application No. Sho 59[1984]-187768 (JP, A)

[There are no amendments to this patent.]

### Claims

1. A calcium-supplemented single strength juice beverage characterized by the fact that the beverage contains virtually no added protein but contains the following:
  - (a ) about 0.05-0.26 wt% soluble calcium,
  - (b) about 0.4-4 wt% of an acid component having a mixture of citric acid and malic acid with the ratio of citric acid to malic acid being in the range of about 5:95 – 90:10,
  - (c) at least about 45% juice,
  - (d) sugar at about 2-16° Brix,
  - (e) about 0.07 wt% or less of chloride ions.
2. The beverage described in Claim 1 characterized by the fact that the aforementioned juice is a citrus fruit juice.
3. The beverage described in Claim 2 characterized by the fact that the aforementioned beverage is orange juice, and the aforementioned weight ratio of citric acid to malic acid is in the range of about 60:40 – 90:10.
4. The beverage described in Claim 3 characterized by the fact that the content of the orange juice is in the range of about 50-90% of the beverage.
5. The beverage described in Claim 4 characterized by the fact that the content of the orange juice is in the range of about 50-70% of the beverage.
6. The beverage described in Claim 5 characterized by the fact that the beverage also contains aspartame, and the sugar content is in the range of about 2-8° Brix.
7. The beverage described in Claim 3 characterized by the fact that the content of the aforementioned orange juice is at least about 15% of the beverage.
8. The beverage described in Claim 3 characterized by the fact that the content of the aforementioned soluble calcium is in the range of about 0.10-0.15 wt% of the beverage, and the

content of the aforementioned acid component is in the range of about 0.8-1.8 wt% of the beverage.

9. The beverage described in Claim 2 characterized by the fact that the aforementioned citrus fruit juice is grapefruit juice.

10. The beverage described in Claim 1 characterized by the fact that the aforementioned juice is apple juice, and the aforementioned weight ratio of citric acid to malic acid is in the range of about 30:70 – 50:50.

11. The beverage described in Claim 1 characterized by the fact that the content of halide ions is about 0.03 wt% or less.

12. A calcium-supplemented juice concentrate characterized by the fact that the beverage contains virtually no added protein but contains the following:

(a) about 0.15-1.30 wt% soluble calcium,

(b) about 1.2-20 wt% of an acid component having a mixture of citric acid and malic acid with the ratio of citric acid to malic acid being in the range of about 5:95 – 90:10,

(c) a sufficient amount of juice to provide about 45 wt% juice in a single strength beverage,

(d) sugar at about 6-75° Brix,

(e) about 0.07 wt% or less chloride ions.

13. The concentrate described in Claim 12 characterized by the fact that the aforementioned juice is a citrus fruit juice.

14. The concentrate described in Claim 1 [sic; 12] characterized by the fact that the aforementioned beverage is orange juice, and the aforementioned weight ratio of citric acid to malic acid is in the range of about 60:40 – 90:10.

15. The concentrate described in Claim 14 characterized by the fact that the concentrate is frozen.

16. The concentrate described in Claim 15 characterized by the fact that the content of the aforementioned soluble calcium is in the range of about 0.3-0.75 wt% of the concentrate, and the content of the aforementioned acid component is in the range of about 2.4-9 wt% of the concentrate.

17. The concentrate described in Claim 16 characterized by the fact that the content of the aforementioned orange juice is at least about 95 wt% of the concentrate.

18. The concentrate described in Claim 15 characterized by the fact that the content of the aforementioned orange juice is in the range of about 50-90 wt% of the concentrate.

19. A method for manufacturing a calcium-supplemented juice product characterized by having the following steps:

(a) a step for preparing an at least quasistable premix aqueous solution of soluble calcium containing the following (i), (ii), and (iii):

(i) soluble calcium in an amount of about 0.05-0.26 wt% of the final product of single strength juice, with the source of the aforementioned soluble calcium selected from calcium carbonate, calcium oxide, and calcium hydroxide;

(ii) an acid component in an amount of about 0.4-4.0 wt% of the final product of single strength juice, with the source of the aforementioned acid component virtually consisting of citric acid and malic acid at a weight ratio of about 5:95 – 90:10; and

(iii) water;

(b) a step for mixing the premix aqueous solution of the soluble calcium with a juice beverage having a sugar content of about 20-800 Brix to obtain the final product of calcium-supplemented single strength juice having (1) at least about 45% juice and (2) about 2-160 Brix of sugar content.

20. The method described in Claim 19 characterized by the fact that the premix solution of soluble calcium is prepared in a step in which (1) an aqueous solution containing an acid component is prepared, and (2) a calcium source is added to the aqueous solution containing the acid component.

21. The method described in Claim 19 characterized by the fact that the premix solution of soluble calcium also contains an effective amount of a premix solution stabilizer.

22. The method described in Claim 21 characterized by the fact that the premix solution stabilizer contains a sufficient amount of sugar in order to provide the premix solution with a sugar content of about 2-400 Brix.

23. The method described in Claim 21 characterized by the fact that the premix solution stabilizer contains about 0.01-0.5%, based on weight/weight of premix solution, of a polysaccharide selected from pectin, algin, hydrolyzed starch, and xanthan gum.

24. The method described in Claim 21 characterized by the fact that the premix solution stabilizer contains a sufficient amount of a concentrated juice in order to provide the premix solution with a sugar content of about 2-120 Brix.

25. The method described in Claim 20 characterized by the fact that the juice is a concentrated orange juice, and the acid component contains about 15-60 wt % citric acid and about 40-85 wt% malic acid.

26. The method described in Claim 25 characterized by the fact that the calcium source is calcium carbonate, and the weight ratio of all the acids to calcium in the premix solution is in the range of about 1-6.

27. The method described in Claim 26 characterized by the fact that the premix solution of soluble calcium also contains a sufficient amount of concentrated orange juice to provide the premix solution with a sugar content of about 2-120 Brix.

28. The method described in Claim 25 characterized by the fact that the premix solution of soluble calcium also contains a sufficient amount of sugar to provide the premix solution with a sugar content of about 2-400 Brix.

29. The method described in Claim 25 characterized by the fact that the method is used to manufacture a calcium-supplemented orange juice beverage containing about 0.05-0.26% soluble calcium based on the weight of the final product of the single strength juice and having a sugar content of about 5-140 Brix.

30. A method for manufacturing a calcium-supplemented concentrated juice product characterized by having the following steps:

(a) a step for preparing an at least quasistable premix aqueous solution of soluble calcium containing the following (i), (ii), and (iii):

(i) soluble calcium in an amount of about 0.15-1.30 wt% of the concentrated juice product, with the source of the aforementioned soluble calcium selected from calcium carbonate, calcium oxide, and calcium hydroxide;

(ii) an acid component in an amount of about 1.2-20 wt% of the concentrated juice product, with the source of the aforementioned acid component virtually consisting of citric acid and malic acid at a weight ratio of about 5:95 – 90:10; and

(iii) water;

(b) a step for mixing the premix aqueous solution of the soluble calcium with a juice beverage containing a concentrated juice having a sugar content of about 20-800 Brix to obtain a calcium-supplemented juice product with a sugar content of about 6-750 Brix; and the aforementioned calcium-supplemented concentrated juice product is diluted to obtain a calcium-supplemented single strength juice product having (1) at least about 45% juice, (2) about 2-160 Brix of sugar content, and (3) about 0.05-0.26 wt% calcium.

31. The method described in Claim 30 characterized by the fact that the premix solution of soluble calcium also contains an effective amount of premix stabilizer.

32. The method described in Claim 30 characterized by the fact that the premix solution of soluble calcium is prepared in a step in which (1) an aqueous solution containing an acid component is prepared, and (2) a calcium source is added to the aqueous solution containing the acid component.

33. The method described in Claim 32 characterized by the fact that the concentrated juice is concentrated orange juice, and the acid component contains about 15-60 wt% citric acid and about 40-85 wt% malic acid.



34. The method described in Claim 30 characterized by also having a step for freezing the calcium-supplemented orange juice concentrate.

35. The method described in Claim 31 characterized by the fact that the premix solution stabilizer also contains a sufficient amount of sugar to provide the premix solution with a sugar content of about 2-400 Brix.

36. The method described in Claim 31 characterized by the fact that the premix solution stabilizer contains about 0.01-0.5%, based on weight/weight of premix solution, of a polysaccharide selected from pectin, algin, hydrolyzed starch, and xanthan gum.

37. The method described in Claim 31 characterized by the fact that the premix solution stabilizer contains a sufficient amount of concentrated juice to provide the premix solution with a sugar content of about 2-120 Brix.

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